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ON THE

IMPROVEMENT OF MEDICINE.

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T H E O R A T I O N

DELIVERED BEFORE THE

Medical Society of London,

AT THEIR

SIXTY-FIFTH ANNIVERSARY,

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BY

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ON THE

IMPROVEMENT OF MEDICINE.

MR. PRESIDENT AND GENTLEMEN,

Two centuries have passed away since it was severely said of medicine, “It is a science which hath been more professed than laboured, and yet more laboured than advanced ; the labour having been more in circle than in progression ; for I find much iteration, but small addition.” The present opportunity may not be unsuitable for canvassing the question, whether medicine still deserves so severe an opprobrium, and we hope that the inquiry may supply materials for encouragement, and motives for exertion to the professors of our art. We naturally turn to the degree of improvement in the public health, and of increased duration of life, as one of the most important indications of the state of medical prac-

tice ; for although various causes must be acknowledged to contribute to the result, yet it would be unfair and unphilosophical not to allow, that the medical management of the population must exert a considerable influence on the probability of life, and that the prevailing medical doctrines must, in no slight degree, modify the opinions and habits of the community in reference to the art and philosophy of living. It is true that, till the present time, the bills of mortality have been lamentably deficient, in the accuracy required to guide us in scientific calculations ; but they nevertheless furnish general results, approximating sufficiently to the truth to authorise our attaching importance to several conclusions, deducible from them. It appears from these tables (and it is confirmed by the observations of Marshall, Hawkins, and Roberton,) that the average duration of human life, in England and Wales, has, during the last half century, increased from forty-two to fifty-eight years ; in Middlesex from twenty-five to forty-five, and in London from twenty to forty-six years.

Eighty years since, fifty-one of every hundred deaths in London were of persons under the age of twenty ; at present only forty-two per cent. die under that age ; a less proportion than used to die fifty years since, under the age of ten : while there is reason to believe that a greater

proportion of those born now reach the age of ten years than formerly attained the age of two.

It may not be irrelevant to add, that during the last two centuries, the population of England and Wales has nearly trebled, having increased from five millions to more than fourteen millions. The increase during the former half of the last century was seventeen and two-thirds per cent. ; during the latter half, characterized by marked improvement in medical science, and by great social amelioration, the increase was fifty-two per cent. The proportion dying of diseases; which we feel authorised still to consider incurable, such as consumption, has been little altered, and we are led to the conclusion that curable diseases are now more generally cured, and that many maladies, which under less efficient treatment used to be very destructive to human life, are now divested of their formidable character.

But it may be well to adduce instances of improvement, more directly and distinctly attributable to medical management, and of these the records of the Puerperal Hospitals afford striking examples. At one of these institutions, in London, fifty years since, the average number of deaths among the women was more than one in sixty. In the last fifty years, excepting during the prevalence of malignant fever, the annual mortality has very little exceeded one in three

hundred. A similar diminution is observable in the recorded mortality among the children.

In proof of the benefits which medicine has rendered to the community, it would indeed be enough to refer to the boon of vaccination, which has so much reduced the ravages of that dreadful disease the small-pox, that less than three hundred is now the annual limit of deaths, within the bills of mortality, from a disease which formerly swept away five thousand a year from our city population: and of these three hundred, a large proportion would probably escape, but for the unhappy prejudice which perpetuates the practice of inoculation for small-pox, and thus disseminates the contagious influence of that disease, to the imminent danger of those who have not been protected by vaccination.* When this prejudice is surmounted and the practice of re-vaccination, under circumstances which render it advisable, is adopted, there is reason to hope that small-pox will almost lose its place in our bills of mortality. The fact, that of the forty-six who died in the Small-pox Hospital, last year, only one had been vaccinated, strongly corroborates this opinion.

I pass on to another example of professional service, peculiarly interesting to the patriotic mind. There *is*, I may almost say there *was*, a disease which, under the name of sea-scurvy, re-

* Report of National Vaccine Establishment.

laxed the sinews of our national strength, and sometimes reduced a gallant vessel to the condition of an unmanageable log ; but an effectual remedy was discovered in citric acid, which being, at the recommendation of Dr. Blair, Dr. Trotter, and Sir Gilbert Blane, extensively employed, in conjunction with other causes, has freed our sailors from this only object of their fear, so that Haslar Hospital, which eighty years since received one thousand four hundred and fifty-seven cases in twelve months, in several subsequent years received but one, as if to serve as a remembrancer of what had formerly been.

I cannot refrain from noticing the marked improvement which has taken place in the condition of those suffering from that greatest of human woes, mental alienation. The dependence of many cases of mental disturbance on corporeal affections is now clearly perceived, and the sufferer, no longer regarded as the victim of a mysterious and incurable malady, is treated on rational principles ; the morbid faculties being permitted to rest, while activity is directed into healthy channels. Formerly consigned to a gloomy building, in some unwholesome locality, with only grated chinks to admit the air, the wretched prisoner wore out his monotonous existence amid the clanking of chains and the shrieks of the wild associates of his woe. Now, amid

spacious gardens, in an elegant mansion, provided with workshops and music-rooms, the landscape glows beneath the pencil, or the harp soothes, at the touch of the convalescent, the perturbation of his mind. In the garden, and in the saloon, all is activity and usefulness. The sojourner "is too busy to notice, or too contented to remember his calamity." As a natural consequence of such amelioration, recovery from this distressing malady is no longer uncommon.

At Hartford, in the United States, out of twenty-three cases of insanity, admitted into an asylum, in one year, twenty-one recovered, and although the circumstances of many of these cases were peculiarly favourable, the fact supplies indubitable evidence of the advance which has been made in this very important branch of medical practice.

There is another circumstance, which more peculiarly renders the present century an era in medicine: viz., the introduction of the stethoscope. By the aid of this instrument, an exactness, nearly equal to that of the fixed sciences, takes the place of the uncertainty which formerly involved the diagnosis of a most important and destructive class of diseases; and children, who cannot tell their sufferings, are placed in a position, almost as favourable for efficient treatment as the adult. We are now relieved from the hazard of mistaking diseases of the liver

for those of the lungs ;—chronic inflammation of the bronchial tubes for true consumption. I appeal to many who hear me, who have made themselves masters of the invention of Laennec, whether the power of forming a correct diagnosis, and consequently the probability of conducting to recovery the subjects of pectoral disease, is not increased, at least one-half, by means of auscultation.

I might dwell on many other instances of professional improvement: such as the remarkable diminution in the frequency of surgical operations, which are now so often superseded by skilful and scientific management. But I fear to be tedious, and will mention only one additional illustration, which it would be wrong to pass unnoticed, namely, the great advantage which the community has derived from a more careful attention to physical education. The observations of Sir James Clark, Drs. Barlow, Combe, Hodgkin, Southwood Smith, and others in this country, and of Drs. Caldwell and Brigham in America, have shaken many injurious prejudices. The principle of adopting the least stimulating diet, consistent with the preservation of energy of function, is more frequently followed. The mutual influence of the mind and body is more carefully considered, and some of the disadvantages which seemed necessarily incidental to a state

of high civilisation are proved to be separable from it.

Let us now turn our attention, for a moment, to the prospect which lies before us. The cultivators of our science, no longer wasting life in constructing flimsy theories from fragile threads, labour to ascertain what is fact, and to establish its generality. The investigations of such men as Sir Charles Bell, Brachet, Bellingeri, Serres, Flourens, and others, on the nervous system, bid fair eventually to fix the locality of its several functions.

Dr. Marshall Hall has established a physiological truth of great importance, which if previously surmised, has been generally overlooked—"the reflex action of the spinal cord."

The observations of Braconnet and Blondel, the experiments of Eberle and Schwann on the power of mucus, mixed with diluted muriatic acid, to dissolve organized structure, have opened a promising path to discovery.

In pursuing this investigation, Dr. Todd, of Brighton, has obtained results still more interesting. If I am not mistaken, his observations point to the conclusion, that there is no ascertainable limit to the solvent power of the digestive fluid; and prove that the change is not chemical decomposition of the substance immersed, but a peculiar resolution into its ele-

mentary organic globules. By means of this fluid,* Dr. Todd has succeeded in resolving the tubercles of phthisis into their constituent globules; thus carrying pathological anatomy to its utmost limits, and at the same time disproving the observation of Gendrin, that there are no globules in the lymph of scrofula, as well as confuting the opinions of Baron and Carmichael of the hydatid origin of tubercles. The same enterprising and assiduous physiologist is engaged in an investigation, which has exercised the talents of Hastings, Wilson Philip, Kaltenbrunner, Marshall Hall, and others; viz., the condition of the capillaries of a part wounded, or subjected to the influence of peculiar agents. Dr. Todd has shown, that the blood in an inflamed or secreting vessel is stagnant; indeed, that the processes of secretion, nutrition, and granulation, are performed by capillaries in a state of stasis; this state depending, not on the heart, but on the innervation of the capillaries, or of the regions to which they belong. Some account of these observations has appeared in "The British and Foreign Medical Review,"† but they are not yet given fully to the world. I am sanguine in the hope that they will throw light on the conditions which precede inflammation, or

* The artificial digestive fluid was prepared by Mr. Schweitzer.

† No vii. p. 281.

which dispose to chronic disease, and thus lead the way to treatment, calculated to arrest morbid action at its commencement. “ Nearly all the functions on which life depends, take place in the minute extremities of the nerves and blood-vessels.”* It is in that direction, therefore, we must look for any important extension of physiological knowledge; and the recent researches of Mr. Kiernan, into the minute anatomy of the liver, admirably prove the reasonableness of expecting much from that course of investigation. At the limits of visible anatomy, there lies another anatomy, whose phenomena are unrevealed: beneath the surface of our present physiology, lie hid processes and laws, full of interest and wonder. Nature is best characterised in her minute portions, and is probably influenced, to a greater extent than we suppose, by minute agencies: and, in proportion as we depart from coarse observation, and aim at a more delicate and refined inquiry, we shall perhaps succeed better in unveiling her mysteries.

In proof of this, we would refer to the experience of some practitioners, confirmed in some degree by our own, of the efficacy of mineral waters in the treatment of diseased conditions which do not tolerate our coarser remedies. And surely, it is not unphilosophical to give credit to

* Dr. Wilson Philip.

such experience. We are informed of the minute vibrations which produce sound ; of the minute undulations which occasion light ; we know something of agencies, so minute as to leave us in doubt whether their essence be in substance or in action ; sometimes thundering with the artillery of heaven, at other times, as they move the spheres along, seeming “too powerful to make any noise amid the lumber of matter,” and it seems not unreasonable to imagine that agencies, almost equally beyond the cognizance of our senses, may exercise a remarkable influence on the animal organization. Let us not contemptuously turn away from the assertions of honest and intelligent men, because their averments meet no support in our preconceived opinions, but fearlessly and faithfully put them to the test of fair inquiry. It is not by avoiding, but by penetrating, the clouds of superstition and ignorance, that the rays of science disperse them, and disclose the forms, whether of truth or error, which lie shrouded within.

Many zealous cultivators of medical science are extremely sanguine in their expectations of important results from the adoption of the Numerical Method. They believe that by classifying phenomena, and making their relations the subject of arithmetical calculation, we may reduce to demonstration a large proportion of medical pro-

blems. The impression on my own mind is, that this method is essential for statistical purposes, and of great value for determining questions in morbid anatomy, while, by opposing our conclusions, it may sometimes prove useful in inducing us to reconsider therapeutical opinions, which may have been too hastily adopted : but I venture to express a conviction that its application to the details of medical practice will be found of doubtful and limited utility. No one can too much admire the noble, self-denying contempt of labour, or the comprehensive talent of Louis, the founder of the numerical school, leaving the lucrative engagement of an established practice, and devoting himself, in the hospitals of Paris, to a rigid investigation of medical doctrines ; but what are the practical results of his exertions ? To mention one of the most prominent illustrations ; he has detailed a number of cases of inflammation of the lungs, giving the numbers treated by various methods and the proportions recovering, under each plan, with a view to determine the comparative efficacy of different modes of practice, especially bleeding, and the conclusion is, that in pulmonary inflammation the power of bleeding is very limited ; in short, that it is almost indifferent whether we bleed or not. You will at once perceive, Sir, the fallacy of the conclusion. We know, from our own experience, that in Pneumo-

nia, a free use of the lancet (with the aid of antimony) is generally followed by a cure ; and some of us, who have had occasion, on the Continent, to witness the practice of those who disapprove of bleeding, have too often seen the disease, under such circumstances, proceed to a fatal issue. No numerical rules can be expected to determine the treatment of diseases, which must be modified by age, sex, temperament, period, state of atmosphere, habits of life, and other circumstances, which it is not in the power of figures to express. The vital principle is not amenable to numerical laws. The causes acting on the impressible animal economy, to adopt the sentiment of Broussais, are ever varying in combination or in kind. Louis considers his method peculiarly applicable to epidemics ; but the epidemics of one year differ from those of another, and, according to the opinion of Sydenham, and of our best practitioners, often require a different treatment.

If it be alleged that the difficulty of applying the numerical method depends only on complication, and that nothing but assiduous labour is necessary to enable us to apply such calculations to the refined alterations of organic action ; we reply, that the complications are too numerous to authorise our expecting to render such a system a sufficient guide, before the end of the world arrives ; or if that period be far more distant than

we are accustomed to suppose, when the professors of medicine might fancy they had attained mathematical certainty, some change of atmosphere might set at nought the rules, which it had occupied ages to construct. I acknowledge that the application of the method has done much to correct error and establish opinions, respecting the degree of frequency of certain structural alterations in some diseases, but if carried too far in pretensions to regulate practice, I believe it will prove a vain attempt to supersede sagacity by simple and limited knowledge, and to render arithmetic a substitute for logic.

The disposition to depend too much on numerical data is an illustration of an element of error which tends materially to retard the progress of medical improvement. We cannot estimate too highly the importance of accurate observation; but surely the habit may be too exclusively cultivated, to the neglect of discrimination and reflection; and is not this the prevailing error of the day in which we live? In the words of a recent author, "It is not so much more experience that we want, but a more correct discrimination, to enable us to understand our experience, to disentangle its perplexities, and to reconcile its apparent contradictions.

But the present course of medical education is ill calculated for the full cultivation of this talent.

In youth the memory is loaded with the words and sentiments of others, and the judgment allowed little time to gather strength by exercise or acuteness by trial. The aspirant for medical knowledge, too often with an undisciplined mind, is afterwards introduced to crowds of cases, the peculiarities of which cannot be fully explained to him, or peruses books, in which cases, selected only for their success, lead him to an incorrect estimate of the efficacy of medical agents. Thrown, shortly afterwards, into the responsibilities of practice, he has no time to combine private reading and study, in sufficient proportion with active duty, or to associate principles with practice. He becomes a routine practitioner, seldom examining his treatment, so as to explain results, detect mistakes, or rectify error; and at length presents the melancholy anomaly,—a man of *great experience* and *little knowledge*.

It is much to be regretted that the old system, by which medical relief was provided to the sick poor, which assisted to promote these lamentable results, should be continued, under a worse form, in our modified poor laws.

It is not my intention to enter the region of politics, which indeed, in the words of Lord Bacon, “is no olive-ground or vineyard, but an intricate wood of thorns and briars, into which they who wander find many scratches, but no food.”

It is not my object to criticise the general character of a measure, which, with considerable modifications, may eventually promote the well-being of the poor ; but I cannot refrain from reprobating those parts of the plan, which affect the medical management of the poor ; since they seem to me calculated to sacrifice life to a niggardly economy. I cannot doubt, that when the subject is brought fully and temperately before the legislature, they will give up the system of tender, apportion the work to be performed to the physical capabilities of the practitioner, and make such other alterations as the interests of science and humanity require. But under the present poor laws, the system of medical management is peculiarly calculated to train our young practitioners to ignorance ; tempting them, to use the words of our great moralist, “ to practise by chance and grow wise by murder ;” or, may I not rather say, to practise by chance, and murder without growing wise. But we will not longer dwell upon a system, which puts up, to a Dutch auction, the lives of the sick poor, and wages a worse than Gothic war against conscience and charity.

Of the causes springing from defective mental discipline, which tend to prevent the improvement of medical practice, is doubtless a disposition to draw general conclusions from detached and restricted observations, and to derive a bias for a

particular system which interferes with the adaptation of treatment to the variety of nature. One man, for example, has been most conversant with acute diseases, and becomes prone to treat chronic diseases too actively. Another, from adventitious circumstances, has chiefly encountered chronic disorders, and cannot persuade himself of the necessity for heroic treatment, when acute disease is committed to his care. Such a bias must prove dangerous: the treatment of acute disease requiring, comparatively, little attention to constitutional peculiarities, while that of chronic maladies is rather the treatment of the constitution than of a disease.

The habit, to which we have referred, of inaptitude for reflection, leads to another source of error, which has been designated by an intelligent friend an indolent homage to great names, and an inconsiderate adoption, without scrutiny, of the most hasty opinions when propounded or sanctioned by men of eminence. For example, the expression of Dr. Baillie's opinion, as given in the Medical Transactions, that paraplegia often resulted from affections of the brain *alone*, was generally adopted, till a careful analysis of recorded facts,* by Dr. Burder, made it evident that in those alleged cases of cerebral paraplegia, there had either been concomitant disease of the

* Med. and Phys. Journal for June 1827.

spinal chord, or the spine had not been examined.

Whilst we deplore the numerous obstacles to the progress of medicine, which have been noticed, it is consolatory to reflect that many of them are capable of removal ; and I beg your indulgence, while, in conclusion, I touch on some of the methods by which they may be overcome. Much would be accomplished, by a more judicious and vigilant superintendence of the early periods of medical education. The art of thinking should be sedulously cultivated : care should be taken to mark the boundaries between what is surmised, and what is established : a habit should be promoted of carefully distinguishing the effects of remedies, (which sometimes are the only interruptions to health,) and the symptoms of disease. A few well-selected cases should be made the subject of deliberate study, and the delicate shades of disease, which determine the niceties of practice, should be minutely pointed out ; since in such observation, lies the chief element of successful treatment. Our colleges afford facilities, which might, however, be greatly extended, for the cultivation of this habit of mind. It is in this respect particularly, that those of our medical brethren, who are not prematurely engaged in the hurry of practice, have peculiar advantages. In the conduct of our own minds, it is necessary that we attach,

to each department of medical science, its due share of importance ; while, for example, we cultivate morbid anatomy, as showing the directions of disease, let us never forget, that disorder does not necessarily involve structural change, but is often only an alteration of vital condition, not to be detected in the dead body. “ That the morbid changes, sometimes discovered, are chiefly useful as elucidating the preceding vital changes on which the functional disturbance usually depends, and that it is more important to ascertain the circumstances which cause degeneration, than the organic changes, which cause the symptoms.” Let us beware of the fascinations of systems. Nature does not recognise the arbitrary laws which our fancies would establish. The votaries of a system often begin with an implicit belief that it must always prove available, and when that belief is shaken by the force of evidence, fall into the extreme of doubting all medical doctrines. Let us guard against such tendencies ; that credulity may not carry us, without a compass, among shoals and shallows, or “ scepticism, like an iceberg,” stay us on our voyage.

A Society, such as that I have the honour to address, is calculated to accomplish much, in separating the proved from the dubious, obviating partial views, and correcting tendencies to form arbitrary systems.

It is allowable to add, without making invidious comparisons, that few societies of this kind are better fitted to accomplish these objects, or combine, more harmoniously, courtesy of demeanour with freedom of debate. May I suggest the desirableness of promoting the more frequent communication of papers, as the subjects for discussion at our meetings. The advantages of calm deliberation would thus be combined with the liveliness of debate. Such communications would often provide materials for valuable publications. There are few methods of promoting medical science, more important than the habit of recording the results of experience with candour and accuracy. Men of intelligence, engaged in the practice of our profession, must derive many profitable lessons, which it is their duty to perpetuate for the benefit of society ; and scarcely anything would more contribute to correct error and extend the bounds of practical knowledge, than the publication, at certain periods, by such individuals, of the changes of their opinions, and the improvement of their practical expedients. May I suggest another particular, in which improvement might be made ? It is not given to many to discover principles, but all, who exercise patient and discriminating observation, may add some suggestions of value to the resources of our art. It is difficult to estimate the improvement which would be

derived from a careful and minute study of individual cases. When we have occasion to consult with our medical brethren, we are generally anxious to show the reasonableness and appropriateness of our treatment. It would be well if, on all occasions, we entertained the same spirit of rational inquiry, and held a consultation over every case with our own conscience. "The subtlety of the subject causes easy failing, therefore the inquiry should be more exact." We might do much to get rid of the expression, "Anomalous cases," if we resolved never to set down a case as dubious, till we had made every effort to divest it of obscurity. Instead of employing remedies, in the way of uncertain experiment, we should aim more carefully to ascertain the appropriate treatment adapted to each variety of condition, and never affect the vanity, or indulge the negligence, of shrewd conjecture. Thus should we learn to combine the improvement of the mind with its exercise, and approach every fresh patient with increased power and augmented knowledge. We cannot doubt that, by carefully recording and weighing facts—taking a frequent and rigid retrospect of our practice, with a view to its improvement,—comparing our conclusions with the results of the recorded experience of others,—putting the reasonable suggestions of intelligent and honest men to the test of fair expe-

riment, — and proportioning our belief to the degree of evidence, — investigating every case with patient scrutiny, — and discussing doubtful points with our professional brethren, — we shall arrive nearer to demonstration than is generally supposed possible.

My conviction increases with every year's experience, that medicine is not, necessarily, so uncertain as the humorous may allege, or the indolent assume. Like causes will produce like effects, in medicine as well as in general physics; and the assurance of practical truths, supported by the strong evidence of verified prognostic, is continually deepening in the mind of the judicious practitioner. As we survey the prospects of improvement, let us not despair that medical men may learn, at all times, to meet as associates in the work of doing good, and not slacken in the race to pick up the golden ball; — that the confidence of the public may be more amply deserved, and more willingly rendered; and that some of the younger men among us may live to see families, now sickly and unpromising, grown up into vigour, through the instrumentality of our professional counsels. It is true that such results can be attained only by indefatigable, self-denying effort; but, in such a cause, the sentiment of Alexander the Great holds pre-eminently true, — “It is a slavish thing to luxuriate, but a royal

thing to labour." In adopting medicine as our pursuit, we pledge ourselves to cultivate the love of truth, and to employ every effort which may assist us in its attainment for the public good.

Our profession, full of sublime attractions, is peculiarly the profession of thought; conferring with the mysterious influences of mind upon matter; exercising the highest powers of the intellect, and the most elevated sympathies of our moral being: yet we stand but on the frontiers of knowledge, catching a glimpse of fertile regions still unexplored by the thought of man. Influenced by the noblest incentives, and the most glowing hopes, let us resolve to-day on a more united and unwearying effort, "to bear down the obstacles, which individual short-sightedness, selfishness, and prejudice, oppose to all improvements," and to discharge our honourable duties to science and humanity.

Providence, in permitting suffering, with a view to the exercise of benevolence and skill for its mitigation, will doubtless prosper all well-directed efforts to promote the heavenly purpose of "good will towards man."

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